

ABSTRACT

An apparatus of the invention is intended for multiple identical continuous records of characteristics on the surface of an object, e.g., a semiconductor wafer, after selected stages of manufacture and treatment. The apparatus is provided with a rotary table for rotation of the wafer with a mechanism for installing the wafer in a predetermined initial position for starting measurements from the same point after each selected stage of manufacture or treatment. The measurements are synchronized for all sequential manufacturing stages of the wafer and are carried out with the use of a resonance sensor based on the principles of resonance sensor technology. The recorded information is stored on a memory device, and if the final product has a defect or deviations, the stored information can be easily retrieved for revealing the time, place on the product, and the source of the defect. The same records can also be used for correlation between the defects or deviations and the failure of the final product on quality control and even during exploitation of the chip in a semiconductor device.